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B3 Series, Three Way, Characterized Control Valve Stainless Steel Ball and Stem









Technical Data			
Service	chilled or hot water, 60% glycol		
Flow characteristic	A-port equal percentage		
	B-port modified for constant common port		
	flow		
Controllable Flow Range	75°		
Sizes	1/2", 3/4", 1", 11/4", 11/2", 2"		
Type of end fitting	NPT female ends		
Materials:			
Body	forged brass, nickel plated		
Ball	stainless steel		
Stem	stainless steel		
Seats	PTFE		
Characterizing disc	Tefzel®		
Packing Packing	2 EPDM O-rings, lubricated		
Body pressure rating			
600 psi	1/2" - 1"		
400 psi	11⁄4" - 2"		
Media temp. range	0°F to 250°F [-18°C to 120°C]		
Close off pressure			
200 psi	1/2" - 2"		
Maximum differential	50 psi for typical applications		
pressure (∆P)			
Leakage	0% for A to AB		
	<2.0% for B to AB		
External leakage	according to EN 12266-1:2003		
C _v rating	A-port: see product chart for values		
	B-port: 70% of A to AB C _v		

Tefzel® is a registered trademark of DuPont

Dimensions OESP-LOSSP-ANEN/RANS A A

Valve Nominal Size		Dimensions (Inches [mm])			
Valve Body	Inches	DN [mm]	Α	В	C
B307-B311	1/2"	15	2.41" [61.1]	1.39" [35.2]	1.20" [30.6]
B312-B316	1/2"	15	2.38" [60.4]	1.78" [45.2]	1.29" [32.8]
B317-B321	3/4"	20	2.73" [69.3]	1.87" [47.4]	1.47" [37.3]
B322-B325	1"	25	3.09" [78.4]	1.87" [47.4]	1.59" [40.3]
B329-B331	11⁄4"	32	3.96" [100.6]	2.27" [57.7]	2.14" [54.3]
B338-B341	1½"	40	4.39" [111.6]	2.51" [63.7]	2.40" [61.1]
B347-B352	2"	50	4.90" [124.5]	2.73" [69.5]	2.74" [69.7]

Application

This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable or constant flow.

* (Not for use in change over applications)

	Valve Nor	ninal Size	Туре		Sui	table .	Actua	tors	
Cv	Inches	DN [mm]	3-Way NPT	No	n-Spr	ing		Spring	
0.3	1/2	15	B307						
0.46	1/2	15	B308						
0.8	1/2	15	B309						
1.2	1/2	15	B310						
1.9	1/2	15	B311				S		
3	1/2	15	B312			တ္	TF Series		
4.7	1/2	15	B313			erie	S	S	
10	1/2	15	B315			Š	-	eric	
16	1/2	15	B316		LR Series	NRN4 Series		LF Series	
4.7	3/4	20	B317			<u>«</u>			
7.4	3/4	20	B318						
14	3/4	20	B320						
24	3/4	20	B321						
7.4	1	25	B322						
10	1	25	B323						
30	1	25	B325*						
10	11/4	32	B329						
19	11/4	32	B330						
25	11/4	32	B331						
19	1½	40	B338						
29	1½	40	B339			ies			
37	1½	40	B340		AR Series	ARN4 Series			AF Series
46	1½	40	B341		Se	¥			Sel
29	2	50	B347		AR				AF
37	2	50	B348			Æ			
46	2	50	B349						
57	2	50	B350						
68	2	50	B351						
83	2	50	B352						
*Models witho	ut characterizir	na diec							

^{*}Models without characterizing disc

Port must be piped to the bypass leg. Characterizing Disc (where applicable) B Port Disc (All 3-way models) B Port Disc (All 3-way models)

BELIM

AR...24-SR Actuators, Proportional



Models ARB24-SR

ARX24-SR Flexible Version

THE TOTAL PROPERTY.			
Technical Data			
Power supply	24 VAC ± 20% 50/60 Hz		
,	24 VDC ± 10%		
Power consumption running	2.5 W		
holding			
Transformer sizing	5 VA (class 2 power source)		
Electrical connection	½" conduit connector		
	18 GA plenum rated cable		
	3 ft [1m], 10 ft [3m], 16 ft [5m]		
Overload protection	electronic throughout 0° to 95° rotation		
Operating range Y	2 to 10 VDC, 4 to 20 mA		
Feedback output U	1 to 10 VDC, max 0.5 mA		
Input impedance	100 kΩ (0.1 mA), 500 Ω		
Angle of rotation	90°, adjustable with mechanical stop		
Torque	180 in-lb [20 Nm]		
Direction of rotation	reversible with protected		
Position indication	handle		
Manual override	external push button		
Running time			
ARB24-SR	90 seconds		
ARX24-SR	300, 150, 90 seconds,		
	constant independent of load		
Humidity	5 to 95% RH non-condensing		
	(EN 60730-1)		
Ambient temperature	-22°F to +122°F [-30°C to +50°C]		
Storage temperature	-40°F to +176°F [-40°C to +80°C]		
Housing	NEMA 2/IP54		
Housing material	UL94-5VA		
Agency listings†	cULus according to UL 60730-1A/-2-14,		
	CAN/CSA E60730-1:02, CE according to		
	2004/108/EC and 2006/95/EC for line voltage		
	and/or –S versions		
Noise level	<45 dB(A)		
Quality standard	ISO 9001		

[†] Rated impulse voltage 800V, Control pollution degree 3, Type of action 1 (1.B for -S models)

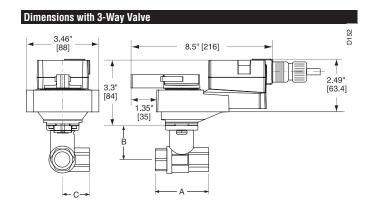
Valve Nominal Size Dimensions (Inches [mm]) Valve Body Inches DN [mm] B231-B232 11/4" 32 3.72" [94.6] 2.04" [51.9] 2.04" [51.9] B238-B240 1½" 40 3.88" [98.5] B248-B250 2" 50 4.21" [107.0] 2.27" [57.7]

Dimensions with 2-Way Valve

3.3" [84]

1.35" [35]

3.46¹ [88]



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AR...24-SR Actuators, Proportional

Wiring Diagrams



X INSTALLATION NOTES



CAUTION Equipment damage!

Actuators may be connected in parallel. Power consumption and input impedance must be observed.



Actuators may also be powered by 24 VDC.



Only connect common to neg. (-) leg of control circuits.



APPLICATION NOTES



The ZG-R01 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC, up to 2 actuators may be connected in parallel.

WARNING Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

